Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1.-41. (Canceled)

42. (Currently Amended) A method of depositing ~~ionized~~ molecules on a surface of an object in a vacuum system, the method comprising:

plasma-treating the surface of the object in the vacuum system; and

depositing ~~ionized~~ the molecules on the surface of the object in the vacuum system by directing a substantially solvent-free beam ~~of~~ comprising the ~~ionized~~ molecules in an ionized state at the surface of the object.

43. (Currently Amended) The method of claim 42 wherein the plasma-treating the surface of the object occurs prior to the depositing ~~ionized~~ molecules on the surface of the object.

44. (Currently Amended) The method of claim 42 wherein the depositing ~~ionized~~ molecules on the surface of the object occurs prior to the plasma-treating the object.

45. (Original) The method of claim 42 further comprising generating ionized molecules by at least one the following methods: electrospray ionization; Atmospheric Pressure Chemical Ionization (APCI); Fast-Atom Bombardment (FAB); Liquid Secondary Ion Mass Spectrometry (LSIMS); Continuous FAB; and Matrix-Assisted Laser Desorption Ionization (MALDI).

46. (Currently Amended) The method of claim 42 wherein depositing ~~ionized~~ molecules comprises: introducing ionized molecules into the vacuum system; and guiding ionized molecules to the surface of the object.

47. (Currently Amended) The method of claim ~~46~~ 42 wherein ~~guiding~~ the directing a substantially solvent-free beam comprising the ~~ionized~~ molecules comprises funneling ionized molecules using an ion funnel.

48. (Currently Amended) The method of claim ~~46~~ 42 wherein ~~guiding~~ the directing a substantially solvent-free beam comprising the ~~ionized~~ molecules includes using multipole ion optics.

49. (Currently Amended) The method of claim 42, further comprising:
solvating the molecules in a solvent;
ionizing the molecules and solvent;
introducing ~~ionized~~ the molecules and ~~a~~ solvent into the vacuum system; and
separating the ionized molecules from the ionized solvent.

50. (Canceled)

51. (Previously Presented) The method of claim 42, further comprising measuring an ion current of the beam of ionized molecules.

52. (Currently Amended) The method of claim 42, further comprising controlling an ion kinetic energy level of the ionized molecules.

53. (Currently Amended) The method of claim 52 wherein the ~~kinetic energy level is controlled by~~controlling an ion kinetic energy level comprises adjusting an electrostatic potential of the surface.

54-55. (Canceled)

56. (Currently Amended) The method of claim 42, further comprising positioning the surface of the object to facilitate plasma-treatment and depositing of ~~ionized~~ the molecules.

57. (Previously Presented) The method of claim 42 wherein the plasma-treating comprises plasma etching of the surface.

58. (Previously Presented) The method of claim 42 wherein the plasma-treating produces dangling bonds on the surface.

59. (Previously Presented) The method of claim 42 wherein the plasma-treating comprises substitution of chemical groups on the surface.

60. (Previously Presented) The method of claim 42 wherein the plasma-treating comprises addition of chemical groups onto the surface.

61. (Previously Presented) The method of claim 42 wherein the plasma-treating comprises treatment with at least one of the following as a process gas: O_2, N_2, N_2O, He, Ar, NH_3, CO_2, CF_4 and air.

62. (Previously Presented) The method of claim 42, further comprising controlling the plasma-treating by adjusting a power input to a plasma-generator.

63. (Previously Presented) The method of claim 42, further comprising controlling the plasma-treating by adjusting a gas-flow rate to a plasma-generator.

64. (Previously Presented) The method of claim 42, further comprising controlling the plasma-treating by changing a type of gas feed to a plasma-generator.

65. (Previously Presented) The method of claim 42 wherein the object is porous.

66. (Currently Amended) The method of claim 42 wherein the surface on which ~~ionized~~ the molecules are deposited is a stainless steel surface.

67. (Currently Amended) The method of claim 42 wherein the surface on which ~~ionized~~ the molecules are deposited is a surface of polymeric material.

68. (Original) The method of claim 46 wherein guiding of ionized molecules comprises generating potential fields.

69. (Currently Amended) The method of claim 42 wherein the ~~ionized~~ molecules comprise biomolecules.

70. (Currently Amended) The method of claim 42 wherein the ~~ionized~~ molecules comprise enzymes.

71. (Currently Amended) The method of claim 42 wherein the ~~ionized~~ molecules comprise hyaluronic acid.

72. (Currently Amended) The method of claim 42 wherein the ~~ionized~~ molecules comprise sugar.

73. (Original) The method of claim 42 wherein the object is a medical device.

74. (Canceled)

75. (Currently Amended) The method of claim 42, further comprising manipulating the object to deposit ~~ionized~~ molecules on an additional surface of the object.

76. (Currently Amended) The method of claim 75 wherein ~~ionized~~ the molecules are deposited on the object in a pattern.

77. (Original) The method of claim 46 wherein guiding ionized molecules comprises using an electrostatic lens.

78. (Previously Presented) The method of claim 42, further comprising manipulating the object through an air-to-vacuum differentially pumped interface prior to the plasma-treating.

79. (Original) The method of claim 46 wherein guiding ionized molecules comprises generating a magnetic field.

80. (Original) The method of claim 46 wherein guiding ionized molecules comprises using an aperture.

81. (Previously Presented) The method of claim 42 wherein the object is a suture.

82.-83. (Canceled)

84. (Previously Presented) The method of claim 42 wherein the plasma-treating comprises coating the surface with a polymeric substance of a controlled molecular weight.

85. (Currently Amended) The method of claim 42 wherein the plasma-treating comprises coating the surface with a polymeric substance of -a controlled chemical polarity.

86. (Previously Presented) The method of claim 42 wherein the plasma-treating comprises plasma-cleaning of the surface.

87. (Currently Amended) The method of claim 42 further comprising manipulating a portion of the object through a vacuum-to-air differentially pumped interface during the depositing of ~~ionized~~ the molecules.

88. (Currently Amended) A method of depositing molecules on an object, the method comprising:

passing a first portion of an object through an air-to-vacuum differentially pumped interface into a vacuum system;

plasma-treating a surface of the first portion of the object in a first treatment chamber of the vacuum system;

depositing ~~ionized~~ the molecules on the surface of the first portion of the object in a second treatment chamber of the vacuum system by directing a substantially solvent-free beam of the molecules in an ionized state at the surface; and

passing the first portion of the object through a vacuum-to-air differentially pumped interface out of the vacuum system.

89. (Currently Amended) The method of claim 88 wherein the depositing ~~ionized~~ the molecules on the surface of the first portion of the object occurs before the plasma-treating of the surface of the first portion of the object.

90. (Previously Presented) The method of claim 88 wherein the object is a suture.

91. (Previously Presented) The method of claim 88 wherein a second portion of the object is outside of the vacuum system when plasma-treating of the surface of the first portion of the object occurs.

92. (Previously Presented) The method of claim 91, further comprising:

passing the second portion of the object through the air-to-vacuum differentially pumped interface into the vacuum system; and

plasma-treating a surface of the second portion of the object in the first treatment chamber of the vacuum system.

93. (Currently Amended) A method of depositing intact molecules on an object, the method comprising:

plasma-treating a surface of the object in a vacuum system; ~~and~~

depositing substantially pure, intact molecules on the surface of the object in the vacuum system by directing the substantially pure, intact~~, ionized~~ molecules in an ionized state at the object in the absence of a plasma; and

controlling a kinetic energy level of the substantially pure, intact ionized molecules directed at the object.

94. (Currently Amended) The method of claim 93 wherein directing the substantially pure, intact, ionized molecules at the surface of the object comprises directing a beam of substantially pure, intact, ionized molecules at the surface of the object.

95. (Currently Amended) A method of depositing molecules on an object, the method comprising:

plasma-treating a surface of the object in a vacuum system; and

depositing ~~ionized~~ the molecules on the surface of the object by:

~~generating ionized~~ ionizing the molecules in a gas;

separating the ionized molecules from the gas to produce a beam of ionized molecules in the vacuum system;

controlling a kinetic energy level of the ionized molecules in the beam; and

directing the beam of ionized molecules at the surface of the object in the vacuum system.

96. (Previously Presented) The method of claim 95 wherein the beam of ionized molecules is comprised primarily of negatively charged molecules.

97. (New) The method of claim 93 wherein the molecules are sugar molecules.